

REMARKS

By the above amendment, claims 1 - 7 have been canceled without prejudice or disclaimer of the subject matter thereof and new claims 12 - 25 presented, it being noted that claims 8 - 11 stand withdrawn from consideration. Additionally, informalities noted by the Examiner in the specification have been corrected, as well as other informalities.

With respect to the drawing objection, submitted herewith is a proposed drawing correction and a sheet of corrected drawing of Fig. 1 showing the gas supply unit 2, gas exhaust unit 3 and plasma generating unit 6. Accordingly, applicants request acceptance of the drawings as now submitted.

As to the objection to claim 7, by the present amendment, claim 7 has been canceled such that this objection has been obviated.

As to the rejection of claims 1, 3 and 5 - 7 under 35 USC 103(a) as being unpatentable over Sasaki et al (JP 5-259250-A) in view of Masuda et al (US Patent No. 6,245,190B1) and the rejection of claims 2 and 4 under 35 USC 103(a) as being unpatentable over Sasaki et al in view of Masuda et al and further in view of Koshimizu et al (US Patent No. 5,980,767) such rejections are traversed insofar as they are applicable to the present claims and reconsideration and withdrawal of the rejections are respectfully requested.

As to the requirements to support a rejection under 35 USC 103, reference is made to the decision of In re Fine, 5 USPQ 2d 1596 (Fed. Cir. 1988), wherein the court pointed out that the PTO has the burden under '103 to establish a prima facie case of obviousness and can satisfy this burden only by showing some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would lead that individual to combine the relevant teachings of the

Amendments to the Drawings:

The attached sheet of drawings includes changes to Fig. 1. This sheet, which includes Fig. 1, replaces the original sheet including Fig. 1, previously omitted elements 6, 2 and 3, respectively.

Attachment: Replacement Sheet

Annotated Sheet Showing Changes

references. As noted by the court, whether a particular combination might be "obvious to try" is not a legitimate test of patentability and obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching or suggestion supporting the combination. As further noted by the court, one cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention.

Furthermore, such requirements have been clarified in the recent decision of In re Lee, 61 USPQ 2d 1430 (Fed. Cir. 2002) wherein the court in reversing an obviousness rejection indicated that deficiencies of the cited references cannot be remedied with conclusions about what is "basic knowledge" or "common knowledge". The court pointed out:

The Examiner's conclusory statements that "the demonstration mode is just a programmable feature which can be used in many different device[s] for providing automatic introduction by adding the proper programming software" and that "another motivation would be that the automatic demonstration mode is user friendly and it functions as a tutorial" do not adequately address the issue of motivation to combine. This factual question of motivation is immaterial to patentability, and could not be resolved on subjected belief and unknown authority. It is improper, in determining whether a person of ordinary skill would have been led to this combination of references, simply to "[use] that which the inventor taught against its teacher."... Thus, the Board must not only assure that the requisite findings are made, based on evidence of record, but must also explain the reasoning by which the findings are deemed to support the agency's conclusion. (emphasis added)

Before discussing the prior art, applicants note that by the present amendment, two independent claims 12 and 17 have been presented which are directed to the structural arrangement as illustrated in Figures 2 and 3 of the drawings, for example, wherein, as described in connection with Fig. 3B at pages 17

and 18 of the specification, a light emitting unit 203 and a light receiving unit 202 are mounted on a mount member 301 at the position of a hole in a side wall of the processing chamber 1 with a light transmissive member 201 being disposed in the chamber and a workpiece being disposed inside of the light transmissive member. In accordance with the present invention, the light emitting device emits predetermined light into the chamber while a plasma is not generated in the chamber and a light receiving device receives the predetermined light reflected inside the chamber and transmitted through the light transmissive member, it being noted that a light reflective member 204 is provided in the manner illustrated. In accordance with the present invention, a state of processing of the workpiece is detecting using data obtained from the predetermined light received by the light receiving device through the light transmissive member and data obtained from light inside of the chamber which is received by the light receiving device through the light transmissive member during processing of the workpiece. Also, as shown in the various figures and as recited in independent claim 17, an optical path of the predetermined light emitted from the light emitting device and an optical path of the predetermined light reflected inside the chamber and received by the light receiving device are substantially in parallel. With this structural arrangement precision of machining and mounting of both the light emitting device and the light receiving device can be increased so that the precision of light passing path from the emitting device to the receiving device can be increased, whereby adjustment and calibration of the light detection structure after the various parts are mounted becomes simple and a processing state can be detected with high precision and at low cost. Irrespective of the position set forth by the Examiner, applicants submit that the features as now recited in newly presented independent claims 12 and 17 and the dependent claims are not disclosed or taught in the cited art as will become clear from the following discussion.

Turning first to Sasaki et al, irrespective of the position set forth by the Examiner, this document discloses that a predetermined light is emitted through a

transmissive member in a chamber before generation of plasma and that light passed through the transmissive member is received by a light receiving unit to detect an influence of the emitted light due to the surface of the transmissive member. Using the detection result, data of light due to plasma generated in the chamber is corrected. In accordance with Sasaki et al, the light receiving unit is disposed outside of the transmissive member and is required to set a path through which a reference light passes and an emitting or receiving position with high precision. For example, in an actual process, an influence such as light attenuation on the surface of the transmissive member disposed on a path through which the light emitted from plasma passes affects data from the plasma emitted light so that it is preferable to make the reference light directed to the chamber to pass through a path largely affecting the emitted light data. In such a case, the light emitting unit and light receiving unit must be mounted on the side wall of the chamber with high precision. Sasaki et al discloses that the light emitting unit which emits light into the chamber and the light receiving unit which receives light from the chamber are disposed separately and independently from each other in position, and with such structure, a higher machining precision and mounting precision are required for such units or separate and independent members resulting in high machine costs and troublesome and time-consuming calibration and maintenance. Thus, applicants submit that Sasaki et al does not disclose or teach a member mounted on a side wall of the chamber covering at least one hole disposed in the side wall and having mounted thereon a light emitting device and a light receiving device in the manner as recited in each of independent claims 12 and 17 and the dependent claims thereof. Further, Sasaki et al does not disclose substantially parallel optical paths as recited in claim 17. Accordingly, applicants submit that such claims patentably distinguish over Sasaki et al in the sense of 35 USC 103 recognizing that any modification of Sasaki et al to provide the claimed features would necessarily represent a hindsight reconstruction attempt utilizing the principle of "obvious to try" which is not the standard of 35 USC 103. See, In re Fine, supra. Thus, applicants submit that all

claims patentably distinguish over Sasaki et al in the sense of 35 USC 103 and should be considered allowable thereover.

With respect to Masuda et al and Koshimizu et al applicants submit that these patents do not overcome the deficiencies of Sasaki et al as noted above, and any proposed combination and modification to achieve the claimed features as set forth in the independent and dependent claims of this application, again necessarily represent a hindsight reconstruction attempt which is not proper. Thus, applicants submit that independent claims 12 and 17 and the dependent claims recite features not disclosed or taught by Sasaki et al, Masuda et al and Koshimizu et al taken alone or in any combination thereof and all claims patentably distinguish thereover and should be considered allowable at this time.

With respect to the dependent claims, applicants note that the dependent claims recite further features of the present invention including the manner of detection of the state of processing and correction or adjustment thereof, as well as at least a front end of the light receiving device is provided at the at least one hole in the side wall of the chamber. It is apparent that the features of the dependent claims that when considered in conjunction with parent claims, further patentably distinguish over the cited art and should now be in condition for allowance.

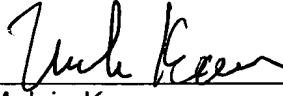
In view of the above amendments and remarks, applicants submit that all claims under consideration in this application patentably distinguish over the cited art and should be considered allowable. Accordance, issuance of an action of a favorable nature is courteously solicited.

To the extent necessary, applicants petition for an extension of time under 37 CFR 1.136. Please charge any shortage in the fees due in connection with the filing of this paper, including extension of time fees, to the deposit account of Antonelli,

Terry, Stout & Kraus, LLP, Deposit Account No. 01-2135 (Case: 500.41372X00),
and please credit any excess fees to such deposit account.

Respectfully submitted,

ANTONELLI, TERRY, STOUT & KRAUS, LLP

A handwritten signature in cursive script, appearing to read "Melvin Kraus", written over a horizontal line.

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Attachments

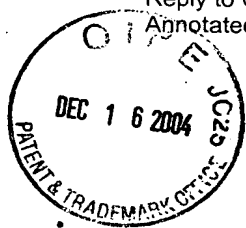


FIG. 1

